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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,752	04/03/2001	Makoto Nonaka	Q63936	9106

7590

11/21/2002

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EXAMINER

ECKERT II, GEORGE C

ART UNIT PAPER NUMBER

2815

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/823,752

Applicant(s)
Nonaka

Examiner
George C. Eckert II

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 29, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-16 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7, 22, 23, and 27-29 is/are rejected.
- 7) ☒ Claim(s) 3, 24-26, and 30 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Aug 29, 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. Applicant's amendment dated August 29, 2002 in which claims 15 and 16 were amended and claims 22-30 newly added has been entered of record.

Election/Restriction

2. Claims 17-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 8.

Drawings

3. The corrected or substitute drawings were received on August 29, 2002. These drawings are acceptable.

Claim Rejections - 35 U.S.C. § 112

4. Rejections of claims 4-7, 15 and 16 under 35 U.S.C. 112, second paragraph, are withdrawn based on applicant's amendments and arguments.

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Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4-6 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,949,098 to Mori. Mori teaches, with reference to figures 3 and 4, a semiconductor device having a plurality of wiring layers in a multilayered structure including:

an inner area 421/422 at a surface and a pad area (generally the area including pads 433) surrounding the inner area therein,

the semiconductor device comprising a device fabricated below the pad area (see figure 3).

With regard to claims 2, 22 and 23, Mori teaches that the device is a bypass capacitor (col. 5, lines 21-29) which may be considered a protection device as it protects from spurious noise.

With regard to claim 4, Mori teaches that the bypass capacitor is formed of metal layers 310, 330 and 350. With regard to claim 5, Mori teaches that the first and second wires of the metal wire layers are connected to a voltage source and ground respectively (col. 4, lines 39-53). With regard to claim 6, Mori teaches that each of the wire layers is comprised of a comb shaped wire such that teeth of the first and second wires are located between each other in the same plane (see figure 3, layer 330 where the first and second wires each comprise comb-like teeth which are located between each other).

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Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Applicant's admitted prior art (AAPA) as shown in instant figures 1A and B. Mori taught the device of claim 1 but did not expressly disclose the device further comprising four input pads being selectively connected. AAPA teaches in figure 1B four input pads 6 being selectively connected as instantly claimed.

Mori and AAPA are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to used the input pads as taught by AAPA in the device of Mori. The motivation for doing so is that the use of the pads would allow external connection to the internal circuitry of the device and thus allow proper device function. Therefore, it would have been obvious to combine Mori with AAPA to obtain the invention of claim 7.

7. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori. Mori taught the device of claim 22 but did not specifically teach that the capacitor comprised metal.

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The use of metal as a wiring layer in the art of semiconductor devices is considered obvious. Regarding claims 28 and 29, Mori does teach that each of the wire layers comprise first and second layers with insulation therebetween as well as the metal wires being comb shaped such that the teeth of each comb are between each other (see fig. 3).

Allowable Subject Matter

8. Claims 8-16 are allowed. Claims 3, 24-26 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art teaches a capacitor (protection device) formed under a pad region, however, the prior art did not teach the device further comprising second source voltage and ground wires, or the protection device comprising first and second wells formed in the substrate as instantly claimed.

Response to Arguments

9. Applicant's arguments filed August 29, 2002 have been fully considered but they are not persuasive. Regarding the rejection of claims 1, 2 and 4-7, Applicant argues the rejection over Mori, asserting that "[t]here is no teaching or suggestion that the power conducting line 311 is located in the pad area of any semiconductor device disclosed in Mori." (Response, page 10). This argument is not found persuasive for at least the following reasons. First, the limitation "pad

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area” is a broad term and is considered to encompass not only the area of the pad itself, but also a surrounding area which may extend essentially until it meets a different element, for example the devices 421 and 422. In this light, it is agreed that the Mori teaches line 411 formed inside the pads 431, 432 and 433. However, the area inside those pads may easily be considered the “pad area.” Secondly, and more importantly, the argument is not based on a limitation found in the claims. That is, the claims merely require “a device fabricated *below* said pad area.” (From claim 1, *emphasis* added). It must be agreed that the device of Mori (that device shown in figure 3) *is* fabricated *below* the pads. The term “below” merely requires a device formed at a lower elevation, which is what is taught by Mori. As such, the arguments are not persuasive and the rejections are maintained.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

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1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Eckert II whose telephone number is (703) 305-2752.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Eddie Lee can be reached on (703) 308-1690. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GCE
November 19, 2002


GEORGE ECKERT
PRIMARY EXAMINER